AMENDMENT UNDER 37 C.F.R. § 1.111

U.S. Patent Application No.: 10/755,667

Attorney Docket No.: Q79414

**AMENDMENTS TO THE CLAIMS** 

This listing of claims will replace all prior versions and listings of claims in the

application:

LISTING OF CLAIMS:

1. (currently amended): A process for producing a saccharide having a

lowered molecular weight, which comprises at least a step of irradiating an electron beam to a

polysaccharide fraction- in a solid state at a dosage of d (kGy) which satisfies the following

equation:

 $n = Me^{ad}$ 

wherein M represents a weight average molecular weight (Da) of the polysaccharide

fraction and is a number of 5,000 to 70,000; n represents a weight average molecular weight (Da)

of the saccharide having a lowered molecular weight and is an optional positive number; e is the

base of natural logarithm; and a is a number of -0.008 to -0.004.

Claim 2 (canceled).

3. (currently amended): The process according to claim-21, wherein a is a number

of -0.008 to -0.005.

4. (original): The process according to claim 3, wherein a is a number of -0.0075

to -0.0050.

2

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q79414

U.S. Patent Application No.: 10/755,667

5. (original): The process according to claim 1, wherein the polysaccharide

fraction to which the electron beam is irradiated is a glycosaminoglycan fraction.

6. (original): The process according to claim 5, wherein the glycosaminoglycan

fraction is a fraction comprising at least one species of glycosaminoglycans selected from the

group consisting of hyaluronic acid, chondroitin sulfate, dermatan sulfate, keratan sulfate,

heparan sulfate and heparin.

Claims 7 -20 (canceled).

21. (currently amended): A process for producing hyaluronic acid having a

lowered molecular weight, which comprises at least a step of irradiating an electron beam to a

hyaluronic acid fraction which has a weight average molecular weight of 600,000 to 1,200,000

(Da) and is in a liquid state at a dosage of 10 to 80 (kGy).

22. (original): The process according to claim 21, wherein the hyaluronic acid

fraction to which the electron beam is irradiated has a weight average molecular weight of

600,000 to 1,200,000 (Da); the dosage is from 10 to 30 (kGy); and the hyaluronic acid having a

lowered molecular weight has a weight average molecular weight of 2,500 to 4,000 (Da).

3

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q79414

U.S. Patent Application No.: 10/755,667

23. (original): The process according to claim 21, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 30 to 50 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 1,700 to 2,500 (Da).

24. (original): The process according to claim 21, wherein the hyaluronic acid fraction to which the electron beam is irradiated has a weight average molecular weight of 600,000 to 1,200,000 (Da); the dosage is from 50 to 80 (kGy); and the hyaluronic acid having a lowered molecular weight has a weight average molecular weight of 1,300 to 1,700 (Da).

Claims 25 - 36 (canceled).